

# STEALTH B-200

REMOTE-CONTROLLED, VARIABLE-BIAS  
CLASS-A POWER AMPLIFIER

The Stealth B-200 is the world's first direct input remote control class A power amplifier. It combines the **functions** of a remote controlled high end preamplifier and power amplifier without all the degrading circuitry and connections associated with them. In fact, the Stealth has far less circuitry than even the purest form of separates, the passive preamplifier and power amplifier combination.

What Genesis has created, in the Stealth, is literally a new category of component, and a new level of ease of use...without sacrificing anything. Instead of giving up sonics for the luxury of remote control or the lack of a separate preamplifier you benefit by the achievement of astonishingly low musical coloration and increased definition that you will hear in this design.

Why? Because we have created the shortest and cleanest path ever devised by anyone, and then packaged it in a beautiful metal sculpture called the Stealth. The result of all of this is musical performance as close to live as currently possible with today's technology, coupled with unprecedented ease of operation and flexibility.



*Genesis*<sup>TM</sup>  
Evolution in Progress



Higher-end  
power for those  
who think  
they've heard  
it all.

Designers Paul McGowan and Arnie Nudell have been pursuing perfection in audio amplification for years. Products like the PS Audio 200CX and the Infinity Hybrid Class A power amplifiers set new standards for their times. Both designers realized, however, that in order to set a new standard today it would be necessary to create more than just a better sounding power amplifier. One would have to rethink the entire amplification chain and be willing to discard any design preconceptions.

Discard them we did.

From the sound to the features and functions, to the design topology, to the chassis itself, no other piece of audio equipment ever built resembles the innovation and designs found in the Stealth. It is truly a revolutionary product.

#### THE SOUND.

You have never heard anything quite like the Stealth.

The top end and midrange possess the warmth and beauty of the best tube and MOSFET designs, while simultaneously embodying the clarity, definition, and power of the best solid state designs.

The mid-bass, that all critical region which defines the body of a cello or a

clarinet is a problem area for many other amplifiers. The Stealth handles this critical area with unerring precision and finesse.

Likewise, the deep bass is matchless. By servo controlling the individual MOSFET outputs, the Stealth is able to create bass as the musicians intended it, defined, full bodied, and with impact.

Probably the most striking feature of the Stealth's sound is its seemingly limitless power. It never flinches even at the loudest notes, and just as importantly, it maintains its character even under the loudest conditions.

#### FEATURES AND FUNCTIONS.

The Stealth is a direct input 200 watt per channel power amplifier (into 8 ohms) with heavy current capability. It will produce 400 watts into 4 ohms and nearly 600 watts into 2 ohms while maintaining 100 watts per channel class A operation.

The design is fully dual mono, featuring two 1.5KVA bi-filer wound toroids. In addition there is a third toroid with separate left and right windings that provides low level voltages, and which powers the internal 20 watt per channel class A amplifier that drives the magnetic coupler. The outputs are servo controlled MOSFETs.

Functions are **all** remote controllable, however for the sake of convenience, we also placed the essential functions on the faceplate of the Stealth:

- ▼ **Power on/off**
- ▼ **Volume level in 1/3 dB increments from 0 to 100**
- ▼ **Input selection (phono, tuner, tape, CD, aux1, aux2)**

The remote control offers a number of additional features and functions:

- ▼ **Balance adjustment in 0.1 dB steps**
- ▼ **External processor loop (insertable between any input and the gain stage of the amp, especially valuable in a high end video system application.)**
- ▼ **Bias adjustment (% of class A operation) from 20 to 100 watts in 1 watt increments.**
- ▼ **Mute function**
- ▼ **Sleep function (turns amplifier off after specified time up to 1 hour)**

The rear panel features three fully balanced inputs and six single ended inputs. It also features a fully balanced output from the volume control to feed a subwoofer, buffered tape outputs for recording, and a buffered external processor feed for your processor.



The heat sinks are hinged for easy access during servicing.



The Stealth can even be used as a pure power amplifier, allowing you to use your existing phono or line stage preamplifier if you wish, while still maintaining the remote control feature.

#### A BRIEF TOUR DE STEALTH.

From your source of choice, your signal typically goes into some form of preamplifier. In standard designs, this consists of potentiometers (at least one for volume, and one for balance), switches, and circuitry. So far, the simplest and cleanest form of preamp is the "pots in a box" configuration known as the passive preamplifier. However, even this simple form of preamplification requires that your signal go through mechanical pots, as well as input and output cables and connectors, all of which to some extent degrade the musical signal.

In the Stealth, as in all amplifiers, there is an "input stage." However, the Stealth has *no preamp stage*. All active preamplifier circuitry has been eliminated. There are no pots, switches or relays other than the input selectors. In fact the entire volume control section of the input stage consists of a single Vishay resistor coupled with a digitally controlled, electronically switched set of monolithic precision resistors shunted to ground. Thus your signal goes only through the Vishay resistor and not through the controlling elements. The Vishay resistor is the finest we have ever heard, and costs 300 times more than the best metal films you can buy.

From the passive input stage your signal goes to the Stealth's unique power amp. Divided into two sections, the power amp sports a zero feedback differential gain block that drives our proprietary magnetic coupler, and a servo MOSFET output stage operating in pure class A that is directly connected to your speakers.



All the Stealth functions and features can be operated with the infrared remote control.

#### A CLOSER LOOK AT THE SIGNAL PATH FOR TECHNOPHILES.

The balanced pair of Vishay resistors in the input stage are connected directly to a matched pair of JFET input transistors which drive a fully balanced set of current sourced transistors that develop 27dB of gain with no global feedback whatsoever. This section then feeds a 20 watt class A power amplifier tied directly to a custom wound Jensen nickel laminated output transformer similar to what you might find in a high end vacuum tube power amplifier.

This output transformer (magnetic coupler) is an elegant solution to several problems. First, it electrically isolates the input section from the heavy currents of the output section. This eliminates a key problem of virtually every power amp in the world, namely ground current modulation. The benefits of this design include improved clarity, lack of blurring, and explosive bass! Second, it enabled us to design the very unique output circuit that would be virtually impossible to build any other way.

This output stage has the simplest and cleanest design imaginable: the signal is magnetically injected directly into the emitters of a single pair of transistors. This novel approach to amplifier design

is a defining element of the powerful, musical sound of the Stealth.

From the output of this dual element gain stage, your signal goes directly to the servo controlled output MOSFETs. These servo sections function as watchdogs for the transistors, making sure they perform all their functions properly.

In fact, the Stealth is the world's first amplifier to incorporate an active servo system around every single output device. Like the servo section on a sub-woofer, this simple electronic device constantly compares the output of each individual MOSFET to its input. Should there be any differences, they are instantaneously corrected. As a result, variances in devices, tolerances in parts, and long term "aging" effects are eliminated once and for all.

This servo system allows the MOSFETs to operate in pure class A and shows off their best attributes while correcting for their inherent weaknesses. MOSFETs are known for the beauty of their top end (very liquid and tube-like) and their midrange is excellent by either tube or transistor standards. Class A operation greatly enhances their transparency. Typically, however, their bass is not tight and lacks the "slam" factor associated with the best high power transistor designs. The servo section

of the Stealth corrects this shortcoming by tracking the output impedance of the MOSFET and providing massive amounts of current when needed to power the bass in your speakers. The bass characteristics of the MOSFETs, as realized in the Stealth, will blow you away!

#### THE ON BOARD COMPUTER.

All of the housekeeping functions of the Stealth are controlled by a microprocessor which is actually a small computer (in fact the Z-80 processor we use ran the first personal computers, and is a tried and true workhorse). It has a big job to do.

In order to not trip your home's circuit breakers when you first turn on the Stealth, the microprocessor progressively powers up the amplifier (unchecked, the Stealth can draw well over 30 amps of power when you turn it on!). After power-up, the computer examines the parameters of the output stage to determine proper performance. It will then set the bias where you left it last time, enable the volume control, and will release control of the amplifier to you.

The computer also controls the Stealth's protection circuitry, which safeguards the output stage from short circuits and over-power situations with a unique non-intrusive dual protection circuit. A floating optical coupler examines the performance of the output stage at all times and is in constant communication with the microprocessor. If there is a problem, the microprocessor determines whether to turn off the amplifier momentarily or permanently. If the amplifier is shut down permanently, the display will explain the problem, such as shorted outputs. After you have corrected the problem, the amp can be turned on again.



The power supply section incorporates three massive toroidal transformers.



The on board computer, which allows ease of control, self checking and diagnostic functions, and protection for the Stealth never interacts with the actual "performance" part of the amplifier. It is entirely separate from the signal path. The Stealth is a 100% analog device.

#### VARIABLE BIAS.

Although variable class A bias is not unique to the Stealth, its method and degree of control has never been seen before. The Stealth's bias is continuously variable from 20 watts to 100 watts in 1-watt increments. Its computer memory will always return you to the last setting you chose when you turn on the amplifier.

What is this bias stuff anyway? The level of bias represents the amount of current (watts) that runs continuously through the amplifier whether there is signal or not. All amplifiers have some degree of bias current running in them. A percentage of bias current less than the total potential of an amplifier is considered class AB bias. (The part of power potential which is always on is considered class A. The part of the power potential which is off until the signal demands power from this range is class B). Bias is important because transistors (and tubes) become very non-linear (distorted) when they are off. *How much they are on* corresponds to the amount of class A bias in the amplifier.

For serious listening, it is likely that you will want to run the Stealth at full class A bias (100 watts of bias current). In addition to having the fullest, most effortless sound, this will also have the effect of drawing 5 amps of power from your wall socket and producing 400 watts of heat in your room. When listening casually, you might wish to listen at the lowest level of class A bias to reduce power consumption and heat output.

The Stealth can deliver its rated power of 200 watts per channel at any bias level, from 20 to 100 watts of class A bias. Many amplifiers require you to make a choice between the amount of class A bias and the output wattage of the amplifier, because they do not have enough power to do both. The Stealth has power to spare, even at its highest class A bias setting.

#### THE CHASSIS.

The black anodized sculpture of the chassis has been machined and extruded out of solid aluminum. There are fully 15 separate machined aluminum pieces which make up the switches and display housings that fit into the 1-inch thick front panel. The extruded heat sinks are attached with stainless steel hardware to stainless steel piano hinges, which allow the sides of the Stealth to fold down like a lotus flower for ease of service.

The power supply section of the Stealth is completely self-contained in its own modular chassis. All three toroidal transformers are placed inside a custom machined 5 sided aluminum box which is then filled with a special epoxy damping material to remove any unwanted mechanical noises.

The Stealth's vibration canceling suspended feet solve the problem of external vibrations caused by the music. This is a well known problem, and everything from spikes, to Sorbothane, to special bases have been tried to solve it. The Stealth's feet are machined out of solid aluminum into a rounded spike, anodized, and then attached to the chassis through a specially tuned flexible material. Like the suspension in your car, the feet smooth the "ride" of the amplifier, resulting in better focus and clarity.

#### PARTS QUALITY.

All parts of the Stealth were chosen because they were the finest, best sounding parts available. No compromise was considered because price was never a consideration.

Examples:

- ▼ Roderstein copper leaded resistors from Germany.
- ▼ Hand picked low ESR capacitors.
- ▼ Custom wound film/foil capacitors from Reliable Capacitor.
- ▼ Rhodium and gold plated Cardas connectors.
- ▼ Gold plated inputs with Teflon insulators.
- ▼ Individual 12 gauge oxygen free wires to each output device and ground.
- ▼ Vishay resistors at the input.

Even the power cord needed to be carefully chosen, due to the sonic signatures imparted by them. After auditioning hundreds of cables, we selected a wonderful sounding power cable from Audioquest to be standard equipment for the Stealth.

The white gloves which we supply are more than an indication of our effort toward perfection. The bright mirror finish of the handles and controls can pick up oils and dirt from one's hands. Although this hurts nothing mechanically, we believe you will want to preserve the aesthetics of this beautiful aluminum sculpture.

Because you have a desire to enjoy music in your home which emulates the live performance experience, you owe it to yourself to compare the Stealth to any preamp/amp combination at any price. You will discover that Genesis is the breakthrough technology company that you've been waiting for.

Call your Genesis dealer today.

You're in for a rare treat.

#### SPECIFICATIONS:

##### Dimensions (HxWxD)

Inches 10 x 19 x 24  
cm 25.64 x 48.72 x 61.54

##### Weight

160 lbs. (72.56 kg)

##### Output power

200 watts RMS per ch. into 8 ohms  
400 watts RMS per ch. into 4 ohms  
585 watts RMS per ch. into 2 ohms

##### Maximum idle current

720 watts continuous  
(6 amps at 120 volts AC)

##### Specified bandwidth

2Hz to 20kHz  $\pm 0.5$ dB

##### Distortion

<0.1% (150 watts into 8 ohms)

##### Input impedance

>30,000 ohms (any input)

##### Maximum peak instantaneous current

42 amps

##### Power supply

110, 120, 220, 240 volts (50/60Hz)

##### Main transformers

(2) 1.5 RMS KVA  
toroidal transformers

##### Microprocessor

Zilog super Z-80. EPROM memory  
250K of non-volatile ROM

##### Warranty

5 years (non-transferable)

##### Bias

Continuously user-adjustable from 20 watts RMS per channel to 100 watts RMS per channel

##### Protection

Continuous monitoring of current, DC and heat. Non-intrusive microprocessor control

Specifications and descriptions subject to change without notice.

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